

**EXTENDED PHASE 1 HABITAT SURVEY
AND BAT SCOPING SURVEY
REPORT**

at

**St Johns Primary School
High Street
Penistone
South Yorkshire
S36 6BS**

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Date of Report:
10/11/2017

Quality Assurance

Version	Desktop Survey Completed:		Site Surveyed:		Report Completed:		Checked:	
	Date	Name	Date	Name	Date	Name	Date	Name
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13452c/DB	31/03/2017	Rens Verlhurst	26/10/2017	David Bodenham	10/11/2017	David Bodenham	10/11/2017	Toby Thwaites

Summary

A report is required for **St Johns Primary School, High Street** to assess the ecological value of the site by documenting the habitat types present and the site's potential for supporting rare and protected species. The development proposed on this site is an extension to the school.

All bat species and their roosts in the UK are protected under European and UK law. The main item of legislation protecting UK bats is the Conservation (Natural Habitats) Regulations 1994 (better known as the Habitats Regulations). In addition to this, bats and their roosts are also protected in England and Wales under the Wildlife and Countryside Act 1981 and The Countryside and Rights of Way Act 2000.

A desktop study has been undertaken in order to obtain any relevant ecological records that may be present within a 2km radius of the site. This includes protected and notable species records, as well as nature conservation designations. A thorough site assessment was undertaken following the guidelines set out in the JNCC's *Handbook for Phase 1 habitat surveys*. The entire site was walked over by an experienced consultant who mapped and described each habitat type that was present. Whilst conducting the site walk-over, any features that may be of value to or have the potential to support protected species were noted and photographic evidence taken. A thorough assessment of the habitat, buildings and trees on site was also carried out to assess the site's potential for supporting roosting and foraging bats.

After conducting a thorough site investigation and a detailed Desktop Study, we consider **St Johns Primary School, High Street** to contain habitats of low ecological value (please see **Section 3.2**).

The site is not situated within influencing distance of any nature conservation sites of either statutory or non-statutory designation.

The site is already heavily developed, containing school buildings, large areas of hard standing and amenity grassland. This significantly lowers the ecological value of the site. The trees, scrub and pond on site have some potential to support protected species such as nesting birds and amphibians, though the development could likely occur without affecting these habitats.

As the site has been considered to have a negligible potential risk of supporting bat roosting sites, we recommend that the proposed development at **St Johns Primary School** should go ahead, and that no Bat Mitigation Licence is required. However, the work should be carried out with care and vigilance. Should any bats be found during any stage of the development, all work must stop immediately and Natural England must be contacted. Natural England will provide advice on the best course of action. It must be stated that this is a legal requirement, and that bats may only be handled and their roost disturbed by an experienced ecologist holding an appropriate licence.

The pond on site is known to support common frog, which receives partial protection under the Wildlife and Countryside Act 1981. This pond should therefore be retained within the development.

Should the removal of any vegetation be required, this should occur outside of the nesting bird period. If work within the nesting bird period is unavoidable, a nesting bird survey must first be carried out to ensure no birds are currently nesting and that any young have fledged. The nesting season is typically March – September inclusive.

The removal of any vegetation should be mitigated through an appropriate planting scheme post-development. This should incorporate locally native shrubs and trees.

JCA Ltd. can provide these and other ecological surveys if required, please do not hesitate to contact us for further information.

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1 Introduction and Terms of Reference

1.1 Purpose of the Report

- 1.1.1 A report is required for **St Johns Primary School, High Street** to assess the ecological value of the site by documenting the habitat types present and the site's potential for supporting rare and protected species.

1.2 Terms of Reference

- 1.2.1 I am instructed by **AHR Global** to visit the site and prepare my findings in a report.
- 1.2.2 For this purpose I have been supplied with a site map (drawing: **2016.00267.SU1**) and brief details of the proposal.

1.3 Scope of the Report

- 1.3.1 This survey was carried out in accordance with the Joint Nature Conservation Committee's (JNCC's) *Handbook for Phase 1 habitat survey - A technique for environmental audit* (2010).
- 1.3.2 This report is compiled in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM's) *Guidelines for Ecological Report Writing* (2015) and to the British Standard Institution's *Biodiversity – Code of Practice for Planning and Development* (2013) by Josie Collier, BSc (Hons), GradCIEEM.
- 1.3.3 This report is also compiled in accordance with the Bat Conservation Trust's (BCT) 'Bat Surveys - Good Practice Guidelines', the Joint Nature Conservation Committee's (JNCC) 'Bat Workers Manual' (3rd Edition) and Natural England's 'Bat Mitigation Guidelines'.

1.4 Details of Proposed Development

- 1.4.1 The development proposed on this site is an extension to the school.

1.5 Site Description

- 1.5.1 **St Johns Primary School, High Street** is situated approximately 10km west-southwest of Barnsley town centre, at grid reference: SE244029.
- 1.5.2 The site comprises of a school building with associated play area, grassland and footpaths.

- 1.5.3 The site is surrounded by predominantly residential properties, with agricultural farmland and scattered woodland copses beyond this. A map of the site in relation to the surrounding habitats can be seen at **Appendix 4**.

1.6 Bats in the UK

- 1.6.1 In the UK there are thought to be 18 native species of bat (17 known to be breeding), and may account for more than a quarter of mammal species present in the UK. Nearly all UK bat species have experienced serious declines over the last century and all species are protected under UK and European Law.

1.7 Bat Ecology

- 1.7.1 All species of bat in the UK are insectivorous and have evolved to hunt a different set of insects, present in different habitat types. Preferred bat habitats include woodland, grassland, agricultural land, wetland and rivers.
- 1.7.2 Bats typically roost close to foraging sites, and use linear features such as hedgerows, tree lines and rivers to navigate. Removal of these linear features is thought to have a significant negative impact on their movement, which could be contributing to their decline.
- 1.7.3 Bats will roost in a wide range of different sites including built structures, underground sites and mature trees. Due to bats ecology different roost sites will be used at different times of the year. Known roost types include:
- Hibernacula: November through to March
 - Temporary roosts: March to April and August to October
 - Maternity roosts: May through to August
 - Summer roosts (non-breeding): Used by males and immature females
 - Mating roosts: Around September and October
- 1.7.4 The two main roosts to be considered, with respect to buildings and development, are maternity roosts and hibernacula. Disturbance of these two roosts can have significant negative impacts on local bat populations.
- 1.7.5 Maternity roosts are colonised around late May to early June and usually consist of mature females and their young. Females typically give birth to only one pup a year and disturbance during this time can result in females abandoning the roost and their young. Many species will use the same maternity roost year after year; the loss of a maternity roost can therefore have an enormous impact on the local population.

- 1.7.6 Hibernacula typically consist of underground sites, such as caves and cellars, where temperatures are low and relatively constant. Bats will hibernate to conserve energy over the winter months when falling temperatures cause a drop in the abundance of insects. Disturbing hibernating bats may cause them to wake, wasting a lot of the bats' energy reserves, reducing their chance of surviving the winter.
- 1.7.7 Brandt's bats are crevice dwellers and found in all types of houses, particularly older stone and slate buildings. In the winter they are regularly found hibernating in underground sites.
- 1.7.8 Brown Long-eared bats usually roost in older buildings, barns, churches and trees during the summer. Winter roosts consist of caves, tunnels, mines, ice-houses and occasionally trees and buildings.
- 1.7.9 Both Common and Soprano Pipistrelle bats are crevice dwellers, found commonly in all types of buildings, including modern housing, and occasionally in trees and bat boxes.
- 1.7.10 Daubenton's bats are found almost exclusively in underground sites, such as bridges and tunnels near to water.
- 1.7.11 Leisler's bats are naturally a forest dwelling species and are most commonly found in trees and occasionally bat boxes. They are also regularly found in buildings both old and new.
- 1.7.12 Nathusius' Pipistrelle bats are crevice dwellers and are regularly found roosting in buildings.
- 1.7.13 Natterer's bats are rarely found in houses, but have been found in old stone buildings such as castles and churches. In winter they hibernate in a wide range of underground sites.
- 1.7.14 Noctule bats are the largest species of bat found in the UK and roost primary in trees. They are rarely found in buildings.
- 1.7.15 Serotine bats roost mainly in older buildings with high gables and cavity walls. Little is known about their winter roosts, but it is thought they hibernate in buildings.
- 1.7.16 Whiskered bats are crevice dwellers and regularly found in buildings, including both old and modern housing. They are most commonly found hibernating in caves and tunnels.

1.8 Bats and the Law

- 1.8.1 All bat species and their roosts in the UK are protected under European and UK law. The main piece of legislation protecting UK bats is the Conservation (Natural Habitats &c.) Regulations 1994 (better known as the Habitats Regulations).
- 1.8.2 In addition to this, bats and their roosts are also protected in England and Wales under the Wildlife and Countryside Act 1981 and The Countryside and Rights of Way Act 2000.
- 1.8.3 Under these legislations, it is an offense to:
- Deliberately capture, injure or kill a bat.
 - Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
 - Damage or destroy a roost (this is an ‘absolute’ offence).
 - Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.
 - Intentionally or recklessly disturb a bat at a roost.
 - Intentionally or recklessly obstruct access to a roost.

If it is discovered that development may impact upon bat roosts (thus leading to an offence being committed) a **mitigation plan** should be devised and a **Bat Mitigation Licence** applied for from the relevant government department (i.e. Natural England). Gaining a licence will depend on many variables, such as the bat species present, roost type, roost size and its local/regional/national importance.

2 Methodology

2.1 Desktop Study Methodology

- 2.1.1 A desktop study was undertaken on 31st March 2017 in order to obtain any relevant ecological records that may be present within a 2km radius of the site. This includes protected and notable species records, as well as nature conservation designations. For this information, Barnsley Biological Records Centre was contacted.
- 2.1.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website was used to locate any designated sites, both statutory and non-statutory, such as Local Nature Reserves (LNRs), Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Sites of Special Scientific Interest (SSSIs) that may be present within 2km of the survey site.

2.2 Site Assessment Methodology

- 2.2.1 A thorough site assessment was undertaken on 27th March 2017 by Josie Collier, BSc (Hons), *gradCIEEM*, following the guidelines set out in the JNCC's *Handbook for Phase 1 habitat surveys*.
- 2.2.2 The entire site was walked over by an experienced consultant who mapped and described each habitat type that was present. The dominant floral species of each habitat were noted as well as any faunal species that were encountered.
- 2.2.3 Whilst conducting the site walk-over, any features that may be of value to or have the potential to support protected species were noted and photographic evidence taken (please refer to **Appendix 2**). Such protected species include, but are not limited to, Badgers, Bats, Dormice, Great Crested Newts, Nesting Birds, Otters, Reptiles, Water Voles, White-Clawed Crayfish (please see **Appendix 6**).
- 2.2.4 Limitations: The survey was conducted during the sub-optimal time for botanical surveys. Therefore, many of the plant species encountered were either not in flower/leaf or were dead. This limitation made floral identification difficult, meaning this report will not represent a comprehensive indication of the site's biodiversity. However, this constraint will not affect the overall conclusion of the report, as habitat types can still be classified and the potential for protected species can still be accurately assessed.

2.3 Bat Scoping Survey Methodology

- 2.3.1 The site was surveyed for foraging, commuting and roosting potential. A detailed search of structures and trees was conducted during daylight hours in order to identify potential bat roosting sites and look for evidence of bat activity. Potential roost sites and features deemed to be of value to bats were documented on the site map (please refer to **Appendix 1**) and photographic evidence was taken (please refer to **Appendix 2**).
- 2.3.2 All surveys are conducted by experienced surveyors using the following equipment to ensure an accurate assessment; a printed site map, camera, 1 million candlelight torch, binoculars, ladders and a duet heterodyne bat detector.
- 2.3.3 Signs that bats have previously or are currently using a potential roost site include:
- Scratch marks, urine and oils stains around holes in buildings or trees.
 - Droppings, carcasses and/or food remains found around the site.
 - Bats observed flying in/out of a hole in a building or tree.
 - Bats heard ‘chattering’ within a potential roost site, especially on warm summer days.
- 2.3.4 Limitations: It must be highlighted that the absence of any of these signs is not proof that the site is not being used by bats. Weathering and other factors will often remove any signs of bat activity, especially when present on the exterior of a building or a tree. As previously explained, many bat species will have several roost sites which they regularly move between and therefore an absence during a survey visit does not exclude their presence at a later date.

3 Results

3.1 Desktop Study Results

3.1.1 Local Data Centre Records: Barnsley Biological Records Centre has been commissioned to provide the records held for protected and notable species within a 2km radius of the survey site. The results have been summarised below. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area. Please see **Appendix 3** for full desktop study results.

Legally Protected Species

3.1.2 Legally protected species are those protected under EU and UK legislation such as the Wildlife and Countryside Act (1981), Countryside and Rights of Way Act (2000), Protection of Badgers Act 1992 and the EU's Habitats Directive.

3.1.3 Amphibians: The data search revealed records of common frog within the pond on site. Other records of common frog and of common toad were also present within 2km of the site.

3.1.4 Badgers: The data search revealed records of badgers within 2km of the site. No records were obtained from within 500m.

3.1.5 Bats: The data search revealed records of common pipistrelle within 500m of the site. There are also records of Brandt's bat, Daubenton's bat, whiskered bat and noctule within 2km of the site.

3.1.6 Nesting Birds: The data search revealed a number of bird species within 2km of the site, with records of linnet, goldfinch, house martin, yellowhammer, swallow, house sparrow, dunnock, starling, blackbird, song thrush and lapwing obtained from within 500m.

3.1.7 Water Voles: The data search revealed a single record of a water vole within 2km of the site. This record was obtained in 1982 and was not obtained from within 500m of the site.

Notable Species

3.1.8 Notable species are those listed in the UK BAP, local BAP, NERC Act (2006) S.41 or any other relevant policies.

3.1.9 Invertebrates: The data search revealed numerous records of butterfly and moth species within 2km of the site.

3.1.10 Mammals: The data search revealed records of both hedgehog and brown hare within 500m of the site.

Statutory Nature Conservation Sites

3.1.11 There are no statutory nature conservation sites within 2km of the site.

3.2 Site Assessment Results

3.2.1 The site was surveyed on 27th March 2017 by Josie Collier, *BSc (Hons), GradCIEEM*.

3.2.2 The site comprises a school building with associated playground, grassland and footpaths. There is an access road and car park to the north and a pond within the school grounds to the west.

Habitats Present

3.2.3 The following habitat types are present at St Johns Primary School, High Street (in alphabetical order):

- Amenity grassland
- Buildings
- Dense scrub
- Hard standing
- Scattered broad-leaved trees
- Standing water

3.2.4 Amenity grassland: A large portion of the site is comprised of amenity grassland. This is used as playing fields and as landscaping areas around the buildings. The sward here is kept short, which makes species identification more difficult, although grass species typical of this type of habitat are Perennial Ryegrass (*Lolium perenne*), Bent grasses (*Agrostis sp.*) and Fescues (*Festuca sp.*). Floral species present include dandelion (*Taraxacum officinale*) and daisy (*Bellis perennis*).

3.2.5 Buildings: The site contains a number of buildings associated with the school. The largest of these is located to the west of the site and is a two storey school building. There is a small pagoda to the east of this building. Towards the east of the site are two smaller buildings. Both buildings are single storey, brick constructions, one with a flat roof and the other with a pyramid hip roof.

3.2.6 Dense scrub: There are two small areas of scrub vegetation to the southeast and southwest of the site. Species here include Bramble (*Rubus fruticosus*), Elder (*Sambucus nigra*), Nettle (*Urtica dioica*) and Cleavers (*Galium aparine*).

3.2.7 Hard standing: The majority of the site comprises of hard standing. This occurs as roads, footpaths and playground areas within the school grounds.

3.2.8 Scattered broad-leaved trees: There are several trees scattered throughout the site. Species here include Silver Birch (*Betula pendula*), Common Alder (*Alnus glutinosa*) and Cherry (*Prunus sp.*).

3.2.9 Standing water: To the west of the site is a small pond, which is contained behind a wooden fenced and used as an educational resource for the school. There is a large amount of pondweed on the surface of the water and a small amount of marginal vegetation around the pond edge.

Target Notes

3.2.10 Target Note 1: A record of a common frog obtained within the site.

3.2.11 Target Note 2: A large pile of branches.

3.2.12 Target Note 3: An area of litter.

Fauna Species Encountered

3.2.13 A single wood pigeon was encountered during the site survey, in a tree to the north of the site. No other faunal species were encountered.

Invasive Plant Species

3.2.14 No invasive plant species were found at this site whilst conducting the site investigation.

3.3 Bat Scoping Survey Results

3.3.1 The site was surveyed on the 26/10/2017 by lead surveyor David Bodenham *BSc Ind (Hons), MSc*, NE Level 2 Class Licence – 2016-26848-CLS-CLS. Survey conditions are summarised in **Table 1**.

Table 1: Survey times and weather conditions.

Survey date	Lead surveyor	Temp	Humidity	Wind speed/Direction		Cloud Cover	Precipitation
26/10/2017	David Bodenham	10.5°C	67%	BF0	N/A	100%	None

3.3.2 Habitats and Features Present

The site consists of a number of buildings associated with the school. Immediately west of the proposed extension area is a patch of amenity grassland, with a number of scattered trees.

3.3.3 Building Assessment/ Built Structure Assessment

The building which is proposed to be extended includes several single-storey flat-roofed offices, currently used as reception, the administration office and the head teacher's office. The west side of this structure is rendered and painted orange (**Appendix 2, Photo 7 and 8**). No gaps are visible in the render and all the windows in this section are well-sealed. A weatherboard lines the top of the wall. This is also in good condition and has no visible gaps into the structure (**Appendix 2, Photo 12 and 13**). The north of the offices is un-rendered (**Appendix 2, Photo 9 and 10**). Pointing is in very good condition, with no visible gaps. Again, weatherboards and windows are well-sealed, including the main entrance doors to the school. To the east of this is the staff room which will not be altered under the proposed development plans (**Appendix 2, Photo 10 and 11**). This is also in a similar condition, with no visible gaps into the structure

Inside the building, the roof structure can be observed (**Appendix 2, Photo 14 and 15**). The roof is a flat, concrete structure, lined with felt. There is a single skylight over the main entrance area. There is no cavity within the roof, and no evidence of roosting bats could be observed within or on the outside of the structure.

3.3.4 Tree Assessment

Table 2: Trees with potential/actual roost features and/or evidence of bats.

Tree Ref.	Age Common Name Botanical Name	Diameter (cm)	Potential/Actual Roost Features	Evidence of Bats	Suitability	Photo Ref.
T 1	Early-mature Silver Birch <i>Betula pendula</i>	42	None	None	Negligible	18
T 2	Early-mature Common Alder <i>Alnus glutinosa</i>	32 + 18	None	None	Negligible	16
T 3	Semi-mature Whitebeam <i>Sorbus aria</i>	16	None	None	Negligible	17
T 4	Semi-mature Common Alder <i>Alnus glutinosa</i>	13	None	None	Negligible	N/A
T 5	Early-mature Common Alder <i>Alnus glutinosa</i>	45	None	None	Negligible	19
T 6	Semi-mature Cherry <i>Prunus sp</i>	16 + 20	None	None	Negligible	N/A
T 7	Semi-mature Cherry <i>Prunus sp</i>	16	None	None	Negligible	N/A

4 Discussion and Analysis of Results

4.1 Nature Conservation Designations

4.1.1 No designated nature conservation sites are located within 2km of the site.

4.2 On-site Habitat

4.2.1 The amenity grassland on site is heavily managed and thus does not contain a diverse variety of floral species. This reduces its appeal to faunal species and gives the area negligible ecological value. The hard standing on site also has negligible ecological value as the materials used here, such as tarmac and concrete, prevent floral species from growing.

4.2.2 The buildings on site are mostly flat roofed with well pointed brickwork and contain large windows. These features make the buildings unlikely to support roosting bats. As the development is an extension to the current school building, it is unlikely that these buildings will be affected by the proposed development.

4.2.3 The scrub vegetation has some ecological potential; however, the areas are small and have poor connectivity to superior habitat in the wider landscape. The loss of this habitat could therefore be easily mitigated through an appropriate planting scheme.

4.2.4 The trees on site have moderate ecological value and could provide suitable nesting habitat for birds. The trees do not contain any significant cracks or cavities that could be utilised by roosting bats.

4.2.5 The pond on site has moderate ecological value and a record of a common frog was obtained from this area. The water will likely attract smaller invertebrates, although the lack of surrounding vegetation reduced the value of this area.

4.3 Potential for Protected Species

4.3.1 Amphibians: The pond on site provides aquatic habitat such as common frog, and there is a record of a common frog within this pond. The terrestrial habitat around this pond is sub-optimal as it mostly comprises of hard standing.

4.3.2 Badgers: The site does not contain the required vegetative habitat to support badgers and close proximity to humans would deter them from entering this site. The data search revealed records of badgers within 2km of the site though no records were obtained from within 500m. No evidence of badger activity was discovered during the site survey.

4.3.3 Barn Owls: The site does not contain the required roosting or foraging habitat to support barn owls. The data search did not reveal any records of barn owls within 2km of the site.

- 4.3.4 Bats: The site was originally assessed to not contain the required roosting habitat to support bats, in the form of trees, buildings or other built structures. After conducting a bat scoping survey within the area proposed to be extended, this conclusion still stands. The building is a flat-roofed structure with no access into the roof itself. All pointing and rendering is in good condition, with no gaps into the structure. All weatherboards are well sealed and would not allow access to any species of bat. Therefore the building has negligible potential for roosting bats. All trees due to be removed under the proposed plans have negligible bat roosting potential. Most are young, and lack any feature able to support roosting bats. There are records of bats within 500m of the site and it is likely that they will pass over this site when foraging or commuting.
- 4.3.5 Dormice: The site does not contain the required floral habitat to support dormice and their distribution in the UK is largely limited to the south of England. The data search did not reveal any records of dormice within 2km of the site.
- 4.3.6 Nesting Birds: The site contains numerous trees and small areas of scrub vegetation that could be utilised by nesting birds. A wood pigeon was observed in a tree to the north of the site and there are numerous records of bird species within 2km of the site. It is unknown at this stage if any trees are to be removed to facilitate the development; however, the trees on site are generally of low quality and could be easily replaced post-development.
- 4.3.7 Otters and Water Voles: The site does not contain the required aquatic habitat to support otters and water voles. There are no records of otters within 2km of the site, and only a single record of a water vole which was obtained in 1982 and was located over 500m away.
- 4.3.8 Reptiles: The site does not contain the required mosaic of habitats to support reptiles and close proximity to humans would deter them from entering this area. The data search did not reveal any records of reptiles within 2km of the site.
- 4.3.9 White-clawed Crayfish: The site does not contain the required aquatic habitat to support white-clawed crayfish and they are unable to commute large distances over terrestrial land. The data search did not reveal any records of white-clawed crayfish within 2km of the site.

*The absence of any signs of or features considered valuable for supporting protected species, can **not** be considered evidence that these species are absent from a site, or that these species will not occupy the site in the future. It must therefore always be recommended that work be conducted with care and vigilance. Should any protected species be encountered during work (please see **Appendix 6**), work should stop immediately and JCA or Natural England contacted.*

5 Conclusions and Recommendations

- 5.1 After conducting a thorough site investigation and a detailed Desktop Study, we consider **St Johns Primary School, High Street** to contain habitats of low ecological value (please see **Section 3.2**).
- 5.2 The site is not situated within influencing distance of any nature conservation sites of either statutory or non-statutory designation.
- 5.3 The site is already heavily developed, containing school buildings, large areas of hard standing and amenity grassland. This significantly lowers the ecological value of the site. The trees, scrub and pond on site have some potential to support protected species such as nesting birds and amphibians, though the development could likely occur without affecting these habitats.
- 5.4 As the site has been considered to have a negligible potential risk of supporting bat roosting sites, we recommend that the proposed development at **St Johns Primary School** should go ahead, and that no Bat Mitigation Licence is required. However, the work should be carried out with care and vigilance. Should any bats be found during any stage of the development, all work must stop immediately and Natural England must be contacted. Natural England will provide advice on the best course of action. It must be stated that this is a legal requirement, and that bats may only be handled and their roost disturbed by an experienced ecologist holding an appropriate licence.
- 5.5 The pond on site is known to support common frog, which receives partial protection under the Wildlife and Countryside Act 1981. This pond should therefore be retained within the development.
- 5.6 Should the removal of any vegetation be required, this should occur outside of the nesting bird period. If work within the nesting bird period is unavoidable, a nesting bird survey must first be carried out to ensure no birds are currently nesting and that any young have fledged. The nesting season is typically March – September inclusive.
- 5.7 The removal of any vegetation should be mitigated through an appropriate planting scheme post-development. This should incorporate locally native shrubs and trees.

JCA Ltd. can provide these and other ecological surveys if required, please do not hesitate to contact us for further information.

6 References

Guidelines for surveys and report writing:

British Standards Institute (BSI), (2013) *BS 42020:2013, Biodiversity - Code of practice for planning and development*. London.

Chartered Institute of Ecology and Environmental Management (CIEEM), (2015) *Guidelines for Ecological Report Writing*. Winchester.

Joint Nature Conservation Committee (JNCC), (2010) *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

Websites:

Advice on protected species is consolidated at:

Environmental management: Wildlife and habitat conservation - GOV.UK (2016) *Gov.uk*. Available at: <https://www.gov.uk/topic/environmental-management/wildlife-habitat-conservation> (Accessed: 21 September 2016).

Magic Map Application (2016) *Magic.defra.gov.uk*. Available at: <http://magic.defra.gov.uk/MagicMap.aspx> (Accessed: 21 September 2016).

The RSPB (2016). Available at: <http://www.rspb.org.uk/> (Accessed: 21 September 2016).

Surveys and mitigation plans: protected species - Detailed guidance (2015) *Gov.uk*. Available at: <https://www.gov.uk/guidance/surveys-and-mitigation-plans-protected-species> (Accessed: 21 September 2016).

Within this detailed guidance on surveys and mitigation information is available on the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

Wildlife licences: when you need to apply - Detailed guidance (2014) *Gov.uk*. Available at: <https://www.gov.uk/guidance/wildlife-licences> (Accessed: 21 September 2016).

Within this detailed guidance on licensing information is available on licences for the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

As well as:

- Non-native Bumblebee species
- Deer
- Freshwater fish
- Invertebrates
- Mink, coypu, muskrat and grey squirrel
- Plants

Species specific information:

Badgers:

Natural England, (2007) *Badgers and Development: A Guide to Best Practice and Licensing*.

Bats:

Bat Conservation Trust, (2007) *Bats, Development & Planning in England*. London.

Mitchell-Jones, A. and McLeish, A. (ed.). (2004) *Bat Workers' Manual*. 3rd ed. JNCC.

Dormice:

Bright, P., Morris, P. and Mitchell-Jones, A. (1996) *The dormouse conservation handbook*. Peterborough: English Nature.

Great crested newts:

Langton, T., Beckett, C. and Foster, J. (2001) *Great Crested Newt Conservation Handbook*. Halesworth: Froglife.

Otters:

Natural England, (2007) *Species Information Note SIN006, Otter: European protected species*.

Reptiles and Amphibians:

Baker, J., Beebee, T., Buckley, J., Gent, T. and Orchard, D. (2011) *Amphibian Habitat Management Handbook*. 1st ed. Bournemouth: Amphibian and Reptile Conservation.

Edgar, P., Foster, J. and Baker, J. (2010) *Reptile Habitat Management Handbook*. 1st ed. Bournemouth: Amphibian and Reptile Conservation.

English Nature, (2004). *Reptiles: guidelines for developers*. Peterborough.

Gent, T. and Gibson, S. (ed.) (2003) *Herpetofauna Workers Manual*. Bournemouth: JNCC.

Water voles:

Natural England, (2008) *Water voles - the law in practice. Guidance for planners and developers*.

White-clawed crayfish:

Peay, S. (2002) *Guidance on Habitat for White-clawed Crayfish and its Restoration*. Kendal: English Nature

Relevant Legislation:

Wildlife and Countryside Act 1981, (c. 69) (as amended). Available at: <http://www.legislation.gov.uk/ukpga/1981/69> (Accessed: 21 September 2016)

Countryside and Rights of Way Act 2000 (c.37). Available at: <http://www.legislation.gov.uk/ukpga/2000/37/contents> (Accessed: 21 September 2016)

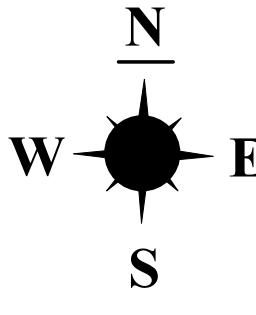
The Conservation of Habitats and Species Regulations 2010 (No. 490). Available at: <http://www.legislation.gov.uk/uksi/2010/490/contents/made> (Accessed: 21 September 2016)

Conservation of natural habitats and of wild fauna and flora Council Directive (92/43/EEC) (The Habitats Directive) (as amended) Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043> (Accessed: 21 September 2016)

Protection of Badgers Act 1992 (c. 51). Available at: <http://www.legislation.gov.uk/ukpga/1992/51/contents> (Accessed: 21 September 2016)

The Hedgerow Regulations 1997 (No. 1160). Available at: <http://www.legislation.gov.uk/uksi/1997/1160/contents/made> (Accessed: 21 September 2016)

Appendices



Appendix 1: Phase 1 Habitat Map

St. John's Primary School
High Street, Penistone, S36 6BS
JCA Ref: 13452c/DB

SCALE : 1:200 PAPER SIZE : A2

KEY	
A	Amenity grassland
■	Buildings
■	Dense/continuous scrub
++++	Fence
H	Hard standing
●	Scattered broad-leaved trees
■	Standing water
○	Target note
—	Wall
■	Area surveyed as part of bat scoping survey

Appendix 2: Photographic Evidence

Photo 1: Wood pigeon in a tree to the north of the site.



Photo 2: Amenity grassland to the east of the site.



Photo 3: Amenity grassland to the north of the site.



Photo 4: Pile of branches to the south of the site.



Photo 5: Pond to the west of the site.



Photo 6: School buildings on site.



Photo 7: The building which is due to be extended viewed from the west.



Photo 8: The building which is due to be extended viewed from the west.



Photo 9: The building which is due to be extended viewed from the northwest.



Photo 10: The building which is due to be extended viewed from the north.



Photo 11: The building which is due to be extended viewed from the northeast.



Photo 12: Close-up of the weatherboards.

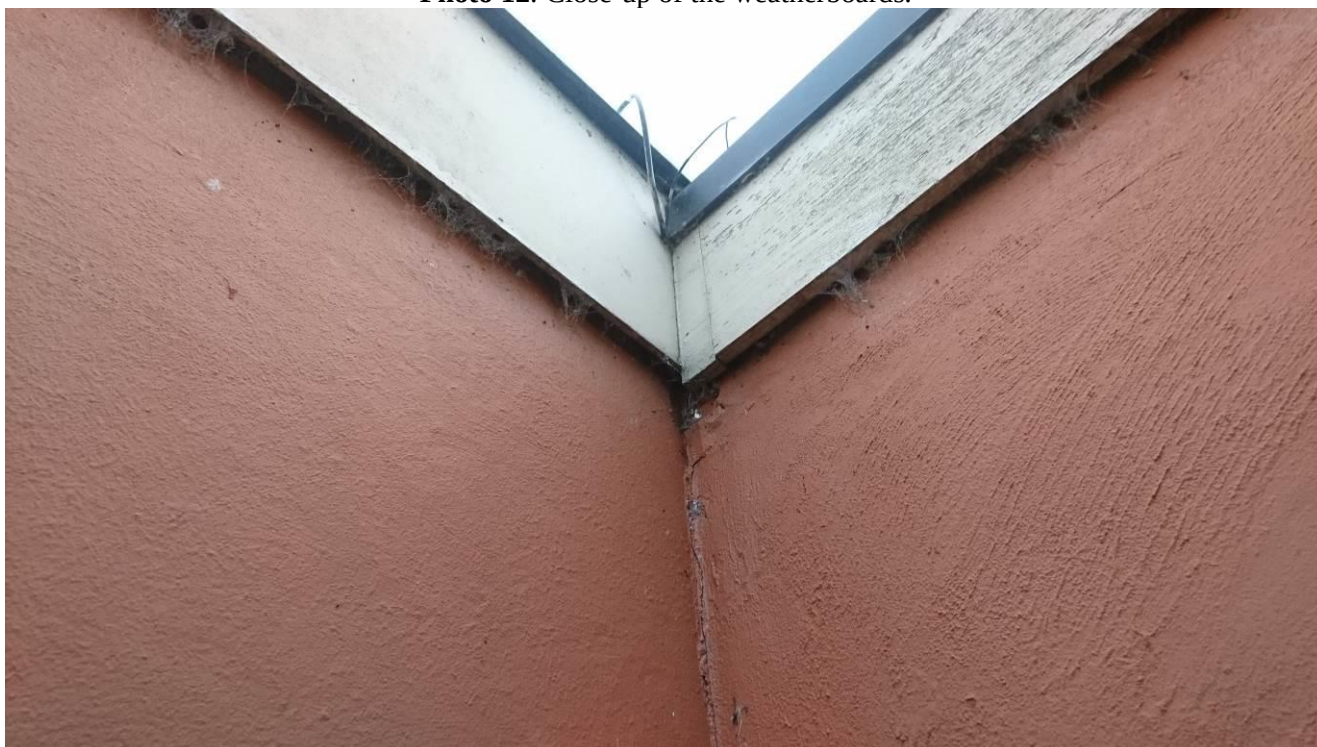


Photo 13: Close-up of the window frames.



Photo 14: Interior view of the proposed extension area.



Photo 15: Interior view of the proposed extension area.



Photo 16: Common Alder (T2)



Photo 17: Whitebeam (T3)



Photo 18: Silver Birch (T1)



Photo 19: Common Alder (T5)



Appendix 3: Data Search

Table 3: Barnsley Biological Records Centre's records of protected and notable species within a 2km radius of the site. An asterisk * denotes records that are within 500m of the site.

Group	Common Name	Species Name	No. of Records	Most Recent Record
Amphibian	Common Toad	<i>Bufo bufo</i>	1	2015
	Common Frog*	<i>Rana temporaria</i>	3	2012
Bird	Skylark	<i>Alauda arvensis</i>	32	2016
	Kingfisher	<i>Alcedo atthis</i>	27	1996
	Northern Pintail	<i>Anas acuta</i>	1	1975
	Teal	<i>Anas crecca</i>	2	2015
	Wigeon	<i>Anas penelope</i>	6	2015
	Greylag Goose	<i>Anser anser</i>	1	2009
	Pink-Footed Goose	<i>Anser brachyrhynchus</i>	2	1994
	Meadow Pipit	<i>Anthus pratensis</i>	16	2016
	Pochard	<i>Aythya ferina</i>	2	1997
	Goldeneye	<i>Bucephala clangula</i>	1	2005
	Linnet*	<i>Carduelis cannabina</i>	23	2016
	Goldfinch*	<i>Carduelis carduelis</i>	30	2016
	Ringed Plover	<i>Charadrius hiaticula</i>	1	1975
	Stock Dove	<i>Columba oenas</i>	15	2013
	Quail	<i>Coturnix coturnix</i>	1	2011
	Cuckoo	<i>Cuculus canorus</i>	3	1996
	Tundra Swan	<i>Cygnus columbianus</i>	1	1975
	House Martin*	<i>Delichon urbica</i>	8	2016
	Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>	1	1997
	Yellowhammer*	<i>Emberiza citrinella</i>	55	2016
	Reed Bunting	<i>Emberiza schoeniclus</i>	15	2016
	Peregrine	<i>Falco peregrinus</i>	2	2011
	Kestrel	<i>Falco tinnunculus</i>	24	2016
	Brambling	<i>Fringilla montifringilla</i>	3	1997
	Snipe	<i>Gallinago gallinago</i>	3	2008
	Swallow*	<i>Hirundo rustica</i>	24	2016
	Red Grouse	<i>Lagopus lagopus</i>	2	2011
	Common Gull	<i>Larus canus</i>	1	2013
	Lesser Black-Backed Gull	<i>Larus fuscus</i>	2	2012
	Grasshopper Warbler	<i>Locustella naevia</i>	1	2009
	Common Scoter	<i>Melanitta nigra</i>	1	2009
	Grey Wagtail	<i>Motacilla cinerea</i>	10	2015
	Yellow Wagtail	<i>Motacilla flava</i>	1	1998
	Spotted Flycatcher	<i>Muscicapa striata</i>	8	2016
	Curlew	<i>Numenius arquata</i>	10	2016
	Willow Tit	<i>Parus montanus</i>	3	2016

	House Sparrow*	<i>Passer domesticus</i>	31	2016
Bird	Tree Sparrow	<i>Passer montanus</i>	12	2016
	Grey Partridge	<i>Perdix perdix</i>	9	2016
	Cormorant	<i>Phalacrocorax carbo</i>	1	2007
	Ruff	<i>Philomachus pugnax</i>	1	1975
	Common Redstart	<i>Phoenicurus phoenicurus</i>	1	1975
	Willow Warbler	<i>Phylloscopus trochilus</i>	21	2016
	Green Woodpecker	<i>Picus viridis</i>	19	1999
	Golden Plover	<i>Pluvialis apricaria</i>	2	2016
	Red-necked Grebe	<i>Podiceps grisegena</i>	1	1975
	Willow Tit	<i>Poecile montanus</i>	1	2010
	Dunnock*	<i>Prunella modularis</i>	22	2016
	Bullfinch	<i>Pyrrhula pyrrhula</i>	7	2014
	Goldcrest	<i>Regulus regulus</i>	6	2016
	Starling*	<i>Sturnus vulgaris</i>	24	2015
	Redwing	<i>Turdus iliacus</i>	3	2014
	Blackbird*	<i>Turdus merula</i>	27	2016
	Song Thrush*	<i>Turdus philomelos</i>	38	2016
	Fieldfare	<i>Turdus pilaris</i>	10	2016
	Mistle Thrush	<i>Turdus viscivorus</i>	12	2013
	Lapwing*	<i>Vanellus vanellus</i>	67	2016
Bony fish	Sea Trout	<i>Salmo trutta</i>	3	2014
Insect - butterfly	Small Heath	<i>Coenonympha pamphilus</i>	1	2016
	Wall	<i>Lasiommata megera</i>	4	2016
Insect - moth	Knot Grass	<i>Acronicta rumicis</i>	4	2015
	Brown-Spot Pinion	<i>Agrochola litura</i>	1	2016
	Mouse Moth	<i>Amphipyra tragopoginis</i>	5	2016
	Dusky Brocade	<i>Apamea remissa</i>	2	2016
	Centre-barred Sallow	<i>Atethmia centrargo</i>	2	2016
	Mottled Rustic	<i>Caradrina morpheus</i>	2	2016
	Broom Moth	<i>Ceramica pisi</i>	2	2016
	Small Square-spot	<i>Diarsia rubi</i>	13	2016
	Small Phoenix	<i>Ecliptopera silaceata</i>	4	2016
	Ghost Moth	<i>Hepialus humuli</i>	1	2016
	Rosy Rustic	<i>Hydraecia micacea</i>	1	2016
	Shoulder-striped Wainscot	<i>Mythimna comma</i>	1	2016
	Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>	1	2016
	White Ermine	<i>Spilosoma lubricipeda</i>	7	2016
	Buff Ermine	<i>Spilosoma luteum</i>	4	2016
	Cinnabar	<i>Tyria jacobaeae</i>	1	2015
Terrestrial mammal	Water Vole	<i>Arvicola terrestris</i>	1	1982
	Bats	<i>Chiroptera</i>	12	2001
	Hedgehog*	<i>Erinaceus europaeus</i>	26	2016
	Brown Hare*	<i>Lepus europaeus</i>	13	2016

	Badger	<i>Meles meles</i>	7	2016
Terrestrial mammal	Myotis Bat Species	<i>Myotis sp.</i>	1	2016
	Brandt's Bat	<i>Myotis brandti</i>	1	1990
	Daubenton's Bat	<i>Myotis daubentoni</i>	1	1991
	Whiskered Bat	<i>Myotis mystacinus</i>	1	1987
	Noctule	<i>Nyctalus noctula</i>	5	1991
	Common Pipistrelle*	<i>Pipistrellus pipistrellus</i>	36	2016

Appendix 4: Site Map

Figure 1: Google Maps image of **St Johns Primary School, High Street**, showing the survey site in relation to the surrounding landscape and habitats.



Appendix 5: Floral Species List

Table 4: Complete list of floral species encountered during survey.

Common Name	Scientific Name
Field Maple	<i>Acer campestre</i>
Common Alder	<i>Alnus glutinosa</i>
Daisy	<i>Bellis perennis</i>
Silver Birch	<i>Betula pendula</i>
Cotoneaster	<i>Cotoneaster sp.</i>
Cypress	<i>Cupressus sp.</i>
Cleavers	<i>Galium aparine</i>
Herb Robert	<i>Geranium robertianum</i>
Ivy	<i>Hedera helix</i>
Holly	<i>Ilex aquifolium</i>
Perennial Ryegrass	<i>Lolium perenne</i>
Daffodil	<i>Narcissus sp.</i>
Poplar	<i>Populus sp.</i>
Cherry	<i>Prunus sp.</i>
Bramble	<i>Rubus fruticosus</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Goat Willow	<i>Salix caprea</i>
Elder	<i>Sambucus nigra</i>
Sowthistle	<i>Sonchus sp.</i>
Whitebeam	<i>Sorbus aria</i>
Dandelion	<i>Taraxacum officinale</i>
Lime	<i>Tilia sp.</i>
Clover	<i>Trifolium sp.</i>
Nettle	<i>Urtica dioica</i>
Wood Speedwell	<i>Veronica montana</i>

Appendix 6: Protected Species Information

The following species are protected under EU law, such as the Conservation (Natural Habitats, &c.) Regulations (2010):

- All UK bat species
- Dormouse
- Great Crested Newt and Natterjack Toad
- Large Blue Butterfly
- Otter
- Pine Marten
- Polecat
- Scottish Wild Cat
- Smooth Snake and Sand Lizard
- Various aquatic and plant species

These species are afforded the highest protection in the UK. Under this protection it is an offence to; deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animal of any such species; deliberately take or destroy the eggs of such an animal, or damage or destroy a breeding site or resting place of such an animal.

In addition to this it is an offence to be in possession of, or to control, transport, sell or exchange, or to offer for sale or exchange, a European Protected species.

The following species are protected under UK law, such as the Wildlife and Countryside Act 1981:

- Badger
- Nesting birds
- Red Squirrel
- Reptiles (Adder, Common lizard, Grass snake, Slow worm)
- Water Vole
- White Clawed Crayfish
- Various bird species i.e. Barn Owl
- Various plant species

Therefore under this protection it is an offence to; kill, injure or take any of the above species.

Nesting birds are only protected during the breeding season whilst on their nest. In addition to the adults being protected, the eggs, young and nest itself whilst in use are protected.

The Wildlife and Countryside Act 1981 also contains measures to prevent the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales (e.g. Japanese Knotweed and Himalayan Balsam).

Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

The following habitat types are protected under UK Law:

- Habitats that are used by protected species
- Habitats that fall within designated sites
- Hedgerows
- Individual trees/woods can be protected under Tree Preservation Orders

Appendix 7: Survey Calendar

Figure 2: Survey calendar for protected species and habitat surveys.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Extended Phase 1 Habitat												
Botanical												
Bat Scoping												
Bat Activity												
Bat Hibernation												
Great Crested Newt (Habitat Assessment)												
Great Crested Newt (Presence/Absence)												
Reptiles												
Badger Initial												
Badger Bait-marking												
Water Vole												
Otter												
Birds (winter)												
Birds (nesting)												
White Clawed Crayfish Night-torching												
White Clawed Crayfish Trapping												
White Clawed Crayfish Manual search												
Dormouse												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

	Optimal Survey Time
	Sub-optimal Survey Time
	Survey Not Possible

Appendix 8: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBIol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Coordinator

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Coordinator and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid ND *(Arboriculture and Forestry).* Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk FdSc (Arboriculture). Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde FdSc (Arboriculture). Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham ND (Forestry). Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking. Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. In between his roles at JCA, Charles will be studying at Askham Bryan College, York, undertaking a two year course in order to obtain a Foundation Degree in Arboriculture (FdSc Arboriculture).

Consulting Staff: Ecology

David Bodenham BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation. An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

Jenny Butler Bsc (Hons) Environmental Science. Jenny joined JCA's ecology department in 2017, bringing with her a bachelor degree in Environmental Science from Bangor University. Jenny has previously worked as an Environmental Consultant for an Agri-Environment company and as a freelance ecological consultant. Jenny specialises in great crested newt and bat ecology.

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh BSc (Hons). IT Officer.
Lorraine Spink Administrative Assistant.

Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.

We confirm that the opinions expressed are our true and bona fide opinions.

Signed



.....

David Bodenham, *BSc Ind (Hons)*

10/11/2017

Proofread by



.....

Toby Thwaites, *BSc (Hons) HND (Arboriculture)*

10/11/2017

For and on behalf of **JCA Ltd**

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- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

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